Nuptial behaviour in the Genus *Coracina* (Campephagidae)

by S. Marchant

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Smythies (1964) stated that courtship display in some large cuckoo-shrikes (Campephagidae) consisted of the male lifting each wing alternately without opening the feathers, while calling vigorously, and Macdonald (1973) made a similar claim for the Black-faced Cuckoo-shrike *Coracina novaehollandiae*. Because shuffling of the wings in this fashion is performed by some species of *Coracina* at all times, even by solitary birds, there is doubt whether it is related to true courtship display. On the other hand, Rand & Gilliard (1967) stated that *Coracina papuensis* 'mated after a short period of mutual display, consisting of facing each other and fluttering their wings'. Skead (1966) and Marshall *et al.* (1968) described display by the Black Cuckoo-shrike *Campephaga phoenicia*, in which both birds hopped or fluttered about in trees with trilling calls, the male gaping at the female to expose the orange inside of his mouth. The duetting and displays by groups of birds, described by Diamond & Terborgh (1968), for *Campochaera sloetii*, *Coracina montana* and *C. schisticeps* were thought to be of a 'communal territorial nature'.

I can find no other references to displays and nuptial behaviour in campephagids, so that 2 performances by the Cicadabird *Coracina tenuirostris* and one by *C. novaehollandiae* that I witnessed near Moruya, New South Wales, in the breeding season of 1975–76 may be of interest.

Performances by *C. tenuirostris* occured at 18.00 on 28 November, 2 days before the pair started to build a nest, and at 09.30 on 4 December, 5 days before the egg was laid. (The species has never been known to lay more than one egg in a clutch.) I did not see which bird initiated the display because each time it had started before my attention was attracted. During display the female perched crosswise on a horizontal branch 5–10 m from the ground, crouching somewhat, with wings partly spread and quivered; otherwise she remained motionless. The male actively hopped round her and from side to side, mostly facing her, wings partly opened and tail spread, bowing towards her with neck extended, at the same time cocking his spread tail.

With each bow, as far as I could judge, he gave a loud arresting 'tick-oo' call with a peculiar and distinctive mechanical quality. On the first occasion, after less than a minute of this performance the male dived from the branch and flew away through the understorey with a protracted variation of its normal call, 'tchuit-t-t-t . . .'. I lost sight of the female. On the second occasion, after a minute or so of bowing and tickoo-ing the male faced the female, bowing more exaggerately than ever, as before with head extended, tail cocked and spread, tickoo-ing rapidly. He suddenly mounted the female, copulated for a few moments and dived away with the protracted 'tchuit-t-t-t . . .'. The female remained for a while, preened, then moved away. I heard the tick-oo call once later that season, two days before the egg was laid, and may have heard it in the distance once in the 1977–78 season. I have spent a long time each day in these birds' territories during their breeding seasons and have otherwise not heard the tick-oo call, which suggests that it is restricted to a brief period.

In contrast, *C. novaehollandiae* apparently mates with little ceremony (cf. *C. papuensis* above). At 08.30 on 15 November, a male (identified by subsequent behaviour) was perched on a small horizontal dead branch of a sapling gum tree, 5 m from the ground. The female flew and settled close by him and half-spread her wings. The male twisted towards her, peered at her rigidly, then mounted. Copulation took place quickly and the female immediately flew off and began to collect thin twigs for building.

Thus, the difference in nuptial behaviour within the genus *Coracina* seems considerable. The present *Coracina* genus was once split into 2 or 3. Peters (1960) put 41 species into *Coracina*, of which 4 from southeastern Asia have sometimes been separated under *Volvocivora*; I shall not refer to these again. Another 10 species, including *tenuirostris*, were once separated in the genus *Edolisoma*, which has now been included in *Coracina* because the morphological differences of size of bill and the sexual dimorphism, which generally distinguish these 2 sections, are linked by a series of intermediates in the region of New Guinea: *caeruleogrisea*, *lineata*, *boyeri*, *morio* and *schisticeps* The sexual dimorphism of *tenuirostris* and of species like it, e.g. *schisticeps*, is reminscent of the African genus *Campephaga*, and in my opinion the intermediate links between the essentially monomorphic section of the genus and the dimorphic one are too abrupt for sinking *Edolisoma*. In addition it is worth drawing attention to differences in voice, flight and nesting behaviour between *C. novaehollandiae* (sexually monomorphic) and *C. tenuirostris* (dimorphic), which may be taken as representatives of the two sections of the genus being discussed.

Voice. C. novaehollandiae has a variety of slurred liquid calls, giving an impression of leisureliness, even lethargy; *tenuirostris* gives a far-carrying energetic 'kree-kree-kree . . . .' song, a bit like that of some cicadas (hence its English name), and has various calls based on a sharp single note, 'tchuit'. *C. papuensis*, *pectoralis* and other species predominantly call like *novaehollandiae*, but *morio* (at least) calls like *tenuirostris*.

Flight. C. novaehollandiae flies in a leisurely dipping fashion with slow wing-beats and intervals of gliding; *tenuirostris* flies fast and direct with rapidly beating wings. On alighting, *novaehollandiae* most characteristically shuffles its wings, first one and then the other, without opening the feathers, whereas *tenuirostris* does not. Certainly several other species behave as *novaehollandiae*, but I can find no field descriptions of species that fly like *tenuirostris* and do not shufflle their wings.

Nesting. Though nests and eggs seem similar throughout the genus, both sexes of *novaehollandiae* build, incubate and tend the young; in *tenuirostris* probably the male alone builds, and certainly he does not incubate (pers. obs.), but both parents tend the young. The breeding behaviour of campephagids in general and of the genus *Coracina* in particular is so poorly recorded that comparison cannot go farther.

Much more needs to be known about the field characters of species of *Coracina* before the resurrection of the genus *Edolisoma* can be suggested, but on the face of it differences in nuptial behaviour, flight and voice between species such as *novaehollandiae* and *papuensis* on the one hand and *tenuirostris*, *schisticeps* and *montana* on the other seem to reinforce their differences in morphology and degree of sexual dimorphism.

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A re-appraisal of the systematic position of *Trichastoma poliothorax* (Timaliinae, Muscicapidae)

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Introduction

Aside from the Grey-chested Illadopsis *Trichastoma poliothorax*, whose systematic position is here in question, the genus *Trichastoma* contains 18 species (Deignan 1964). Of these, 11 are Asiatic, ranging from the Himalayas south and east through Burma and the Malay Peninsula to Indonesia and the Phillipines. The other 7 are African, ranging from W. Africa to Sudan, south to Malawi and Angola. All live close to the ground in dense undergrowth. They are smallish babblers, generally brown or rufescent above, and greyish, whitish, pale rufous or orange below, often with some scaling on head and underparts. In some the colour of the crown contrasts with the mantle. In all but *cinereiceps* the rictal bristles are very pronounced; and *cinereiceps* also differs from all the others in having a very short tail.

The systematic position of *poliothorax* has never been satisfactorily settled. The species was originally described as *Alethe poliothorax* (Reichenow 1900) and both Chapin (1953) and later Hall & Moreau (1970) suggested that it may be a turdine. Ripley (1952), in his treatment of the Turdinae, omitted it. Deignan (1964) gives no particular reason for its inclusion in the Timaliinae. Most recent authors agree, though expressing reservations, on placing it in the genus *Trichastoma* (or *Malacocincla*, now merged with *Trichastoma*) in the subfamily Timaliinae (Chapin 1953, Hall & Moreau 1970, Mackworth-Praed & Grant 1960). C. F. M. has noticed a superficial resemblance of the bird in the hand to *Modulatrix stictigula*. (It should perhaps be mentioned that Benson & Irwin (1975) have removed *orostruthus* from *Phyllastrephus* and added it to *Modulatrix*, a previously monotypic genus.)

Our investigations have utilised skin specimens of all species of *Trichastoma*, and spirit specimens of the following: *T. tickelli*, *malaccense*, *rostratum*, *bicolor*, *albipectus*, *fulvescens*, *puveli* and *poliothorax*.